



**CYNTHIA A. HARDING, M.P.H.**  
Interim Director

**JEFFREY D. GUNZENHAUSER, M.D., M.P.H.**  
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October 27, 2016

TO: Each Supervisor

FROM: Cynthia A. Harding, M.P.H.  
Interim Director, Public Health

Richard J. Bruckner  
Director, Regional Planning

SUBJECT: **RESPONSE TO A MOTION BY SUPERVISOR MICHAEL D. ANTONOVICH  
ON SUNSHINE CANYON LANDFILL (OCTOBER 4, 2016 AGENDA ITEM  
NO. 8)**

On October 4, 2016, your Board approved a motion directing the Department of Public Health (DPH) to investigate actions that can be taken to address the ongoing odor nuisance problems impacting the communities surrounding the Sunshine Canyon Landfill. Further, your Board directed the Department of Regional Planning (DRP), in consultation with County Counsel and the Department of Public Works (DPW), to review the Conditional Use Permit for the landfill and identify any and all Conditions of the Approval and enforcement tools to eliminate landfill odors migrating beyond the property boundary and impacting the surrounding communities. This is to provide a report back in response to these directives.

**Background**

The Sunshine Canyon Landfill (Landfill) is operated within the jurisdictions of the City of Los Angeles (City) and Los Angeles County (County). The unincorporated portion of the Landfill is regulated by DRP and DPW, as well as several other agencies, including AQMD. The DPH-Solid Waste Management Program (SWMP) and the City share jurisdiction as the local enforcement agency (LEA) authorized by CalRecycle to regulate the day-to-day operation of the Landfill on behalf of the State. DPH also regulates the Landfill under County authority as the Health Officer. AQMD is the lead regulatory agency responsible for investigation and validation of odor and air quality concerns.

In recent years, reports by the community of odors emanating from Sunshine Canyon Landfill (Landfill) have increased. The South Coast Air Quality Management District (AQMD) reports that they have received an average of 1,375 odor complaints annually for the years 2011-2015. In response, AQMD has issued numerous Notices of Violations (NOVs) to the operator, Republic Services Inc., for discharging air contaminants in violation of State law.

On March 30, 2016, DPW issued a letter requiring the Landfill operator to take immediate action to abate the odor nuisances affecting the surrounding community (Attachment I). The letter required the Landfill operator to demonstrate its ability to control and/or make improvements in the following areas: 1) Landfill Gas Collection and Management, 2) Surface Gas Emission Monitoring, and 3) Odiferous Loads Management. In the letter, DPW also directed the Landfill operator to provide interim milestones to demonstrate that it was moving toward compliance and reducing the odor to below nuisance levels by March 30, 2017. On July 14, 2016, DPW issued a second letter to the operator describing existing deficiencies (Attachment II). To date, the Landfill operator has not responded sufficiently to these requirements and the Landfill continues to generate nuisance odors affecting the surrounding community.

### **Regulatory Authorities**

#### *Department of Regional Planning*

DRP is responsible for overseeing the Landfill's Conditional Use Permit No. 00-194-(5) (CUP) that regulates the unincorporated portion of the Landfill. Condition 11 of the CUP outlines the enforcement procedures that DRP can take for a violation of the CUP, inclusive of a Notice of Violation (NOV) and modification or revocation of the CUP. The CUP includes four key enforcement provisions that respond to odor complaints.

1. Condition 45 N authorizes both DPW and DPH-SWMP to impose additional corrective measures to address odor complaints. This authority includes the ability to direct the operator of the landfill to implement additional corrective measures that address odor complaints when such measures are deemed necessary to protect public health and safety.
2. Condition 7 allows other agencies to refer a violation of their regulations as enforced through their administrative process (inclusive of odor complaints) to DRP for enforcement under the CUP.
3. As described under Condition 8, if a violation of the CUP is found under Condition 7, DRP may issue a NOV as described under Condition 11 to the operator of the landfill to be subject to a \$1,000.00 a day penalty if the violation is not abated within 30 days. The operator of the landfill may either correct the violation or request an appeal of the NOV to be considered by a Hearing Officer if dissatisfied by the NOV.
4. Under Condition 11, the CUP may be modified or revoked after a public hearing if the Planning Commission or Hearing Officer finds that conditions of the CUP have been violated, or that the grant has been exercised so as to be detrimental to public health and safety, or so as to be a nuisance.

#### *Department of Public Works*

DPW is responsible for technical review and approval of landfill development, operations, and maintenance protocols. Its enforcement authority is derived from the CUP, including Condition 45N referenced above. If the Landfill is found to be in violation of requirements issued by DPW, DPW may request DRP issue a NOV under Condition 11 of the CUP to bring the Landfill into compliance.

#### *Department of Public Health*

DPH, through its designation as the LEA, is jointly responsible, along with the City of Los Angeles for oversight and monitoring of the day-to-day operations of the Landfill. Much of the regulation of

the Landfill falls under the LEA. However the State has instructed that LEAs are not authorized to take enforcement action in response to odor complaints, as this authority is delegated to AQMD. In addition to its role as the LEA, DPH also has authority to abate nuisances under Title 11 of the Los Angeles County Health and Safety code. If the condition is deemed a nuisance under Title 11, the Health Officer may issue a NOV regarding the violation and proceed with due process. If there is non-compliance, the Health Officer may pursue compliance through the courts or refer the notice to DRP for enforcement through the CUP process under Condition 45N.

### **Current Actions to Address the Odor Problem**

On October 5, 2016 in response to your Board's motion, DRP, DPW, DPH, and County Counsel met to review the history of the odor problem at the Landfill, discuss past approaches to addressing this problem, and generate ideas on what more can be done to bring the Landfill into compliance. There were three important outcomes of this discussion:

1. DPH determined that the odor problem at the Landfill and surrounding community represents a nuisance affecting the health and well-being of residents.
2. DPW determined that the Landfill operator was not in compliance with the order issued on March 30, 2016 and requested DRP to issue a NOV.
3. The County Departments agreed that in order to resolve the odor problem a new approach should be pursued. Instead of prescribing specific mitigation measures, the Departments will impose a performance requirement that the odor be abated.

On October 25, 2016 DRP issued a NOV to the Landfill operator identifying the operator's lack of response to DPW's information request as a violation of the CUP. A violation of the CUP could result in a revocation or modification of the Landfill's operating conditions. DPH as the County Health Officer, has determined that the odor conditions at the Landfill represent a public nuisance. DPH is now conferring with County Counsel on the issuance of a NOV. Further, DPH, DPW, and DRP are supporting AQMD in their enforcement efforts to address odor complaints by participating in town hall meetings and attending AQMD's hearings on the Petition for an Order for Abatement (Case No. 5880-5). These hearings resumed on October 25, 2016.

### **Conclusion**

To protect the health of the community, the County Departments will use their collective authorities to bring the Landfill into compliance and take other actions as necessary to abate the odor problem.

CAH:ab

Attachments

c: Chief Executive Officer  
Executive Officer, Board of Supervisors  
County Counsel  
Public Works



GAIL FARBER, Director

# COUNTY OF LOS ANGELES

## DEPARTMENT OF PUBLIC WORKS

*"To Enrich Lives Through Effective and Caring Service"*

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ALHAMBRA, CALIFORNIA 91802-1460

IN REPLY PLEASE

REFER TO FILE: **EP-5**

March 30, 2016

Mr. Rob Sherman, General Manager  
Sunshine Canyon Landfill  
Republic Services, Inc.  
14747 San Fernando Road  
Sylmar, CA 91342-1021

### **SUNSHINE CANYON CITY/COUNTY LANDFILL CONDITIONAL USE PERMIT NO. 00-194-(5) ODOR MITIGATION MEASURES**

Dear Mr. Sherman:

This letter and its requirements is a follow up to the Los Angeles County Department of Public Works' (Public Works) letters dated October 22, 2014, and February 26, 2015, and meetings with Republic Services (Republic) on December 10, 2015, and February 10, 2016.

Public Works agrees that as of January 21, 2016, Republic has provided all outstanding information requested by Public Works in the letters. Moreover, based upon the information that Republic has provided, Public Works has determined that Republic has developed its landfill gas collection system infrastructure and put operational procedures in place for monitoring and managing landfill gas, which if properly followed, should have a reasonable likelihood of effectively managing the landfill gas generated at the site.

At the February 10, 2016, meeting, the parties agreed on certain requirements going forward, which are set forth in this letter. The objective of these requirements is to effectively ensure that the Landfill's gas collection and control systems are adequate to manage the landfill gas being generated at the Landfill as well as its ability to control odor nuisance created by the Landfill that is affecting the surrounding communities. In addition, as part of the objective, odor nuisance complaints should be eliminated or reduced to a level that is comparable with other landfills currently operating in Los Angeles, Orange, Riverside, and San Bernardino Counties.

If, within 1 year from the date of this letter, Republic cannot demonstrate that it has undertaken all measures necessary to reduce the odors being created by the Landfill to below nuisance levels, Public Works reserves the right to impose additional corrective measures as further set-forth below.

These requirements shall not be construed to limit in any way other regulatory agencies' ability to impose additional requirements or mitigation measures to address the odor nuisance being created by the Landfill.

### **Measures to Ensure Adequate Landfill Gas Management and Collection System**

Republic shall demonstrate the ability of its gas collection and control systems to effectively manage and control landfill gases generated by the Landfill, regardless of the type of material used for daily cover, including the ability to effectively eliminate odor nuisance created by the Landfill.

#### **A. Landfill Gas Management**

1. Republic shall prepare a 5-year master plan for the continued development and maintenance of the gas collection and control system (GCCS) at the Sunshine Canyon Landfill that includes, but is not limited to the following:
  - a. Index map(s) where each yearly phase is set to take place at the Landfill
  - b. Fill operations or phasing plans (including excavation plans) that clearly delineate the phase for each planning year and are consistent with Fill Sequencing Plans to be reviewed and approved by Public Works
    - i. These plans must be provided in 3 feet by 2 feet printed copies and their equivalent electronic copies (Portable Document Format)
    - ii. Plans must clearly define the boundaries of each phase
    - iii. The elevation heights as well as slopes of each phase must also be labeled legibly
    - iv. All legends must be identified in a "Legends" section for each plan
  - c. Proposed locations of the vertical gas extraction wells over the existing vertical gas extraction wells for each planning year showing the radius of influence of each well
  - d. Analysis and justification demonstrating the adequacy of the proposed and existing GCCS to effectively manage the amount of landfill gas being generated for each planning year

2. Republic shall submit a 5-year master plan (as described in Item No. 1) to Public Works by May 1 of each year for review and approval. This plan must be revised every year so that a new year is added to keep this as a 5-year plan.
3. By May 1 of each year, Republic shall submit As-Built plans to Public Works with copies to South Coast Air Quality Management District (SCAQMD) and Sunshine Canyon Landfill – Local Enforcement Agency (SCL-LEA) reflecting all GCCS installations and enhancements done within the prior calendar year. For any change in facilities between the submitted as-built plans and the facilities proposed in the prior year's approved 5-year master plan, Republic shall provide a description of the operational or maintenance need that required the modification to the plan.
4. At a minimum, annually by May 1 of each year, Republic shall calculate the in-place density of fill material taking into account the soil and other approved alternative cover material and calculate the radius of influence as well as spacing for vertical gas extraction wells and horizontal gas collectors based on that density. Areas with different site characteristics may require separate calculations of in-place densities. These calculations shall demonstrate the effectiveness of the collection system and shall be submitted to Public Works for approval with copies to SCAQMD and SCL-LEA by May 1 of each year. In the event the annual aerial flyover is delayed due to weather conditions, Republic will notify Public Works so a revised acceptable due date can be established for that year.
  - a. Provide maps delineating the different areas that were analyzed for each planning year
  - b. Provide an explanation of the differences in the radius of influence calculated for the different areas analyzed for each planning year, including the effects of soil and other types of cover used in such areas
5. Based on the radius of influence calculated in Item No. 4 above, Republic shall propose a schedule for installing the appropriate number of vertical gas extraction wells as well as horizontal gas collectors in previously completed areas that need enhancements and newly completed cells (cells that have reached final grade). By May 1 of each year, the proposed installation schedule for the next planning year shall be submitted to Public Works for approval with copies to SCAQMD and SCL-LEA. In addition, Republic shall consider in its schedule all required permitting timeframes as required by SCAQMD and other regulatory agencies for the installation of its GCCS.

6. Republic shall recalculate the efficiency of the GCCS annually taking into account additional landfill gas that is generated due to increases in the total in-place disposal volume by May 1 of each year. By May 1, 2016, Republic shall describe the methodology used in calculating efficiency by comparing landfill gas generation versus collection rates to Public Works, SCAQMD, and SCL-LEA. Thereafter, by May 1 of each successive year, Republic shall submit annual gas generation rates and projections, and GCCS efficiency calculations to Public Works, SCAQMD, and SCL-LEA for review and comment. Gas collection and control system calculations shall also demonstrate the adequacy of landfill gas destruction and management capacity when both the Gas-to-Energy facility is operating and when it is not functioning due to various circumstances including maintenance or repairs. Moreover, these calculations shall also take into account the existing 9-inches of soil cover, or other approved ADC (if any), for current and future design of the GCCS.
7. By May 1 of each year, commencing 2016, provide a gas collection well evaluation and integrity report, including maintenance schedule, which demonstrates that each well (vertical and horizontal) is functioning effectively as designed. Any well identified as ineffective or inefficient or impacted for any reasons, shall be immediately (within 14 days of such identification) retrofitted and/or enhanced to ensure its maximum collection effectiveness and efficiency. In no event shall such ineffective and inefficient well remain impacted for more than 30 days without being decommissioned and/or replaced.
8. The Director of Public Works may approve additional days to replace the wells if demonstrated by Republic that additional time is necessary to decommission and/or replace all identified impacted wells at the site.

#### B. Surface Gas Emissions Monitoring

1. Title 27, Section 20700 of the California Code of Regulations requires that compacted earthen material of at least 12-inches in thickness be placed on all surfaces of fill where no additional solid waste will be deposited within 180 days. Republic shall visually inspect all areas of the Landfill (except at the outlet of any gas control device), including intermediate cover areas, for any fissures, cracks, or settlement in order to prevent emissions of landfill gas through the intermediate cover surface. Such inspections shall include areas identified in SCAQMD's Rule 1150.1 reports where methane levels have measured greater than 500 parts per million (instantaneous method) at the surface at a frequency greater than once every quarter. Areas of

exceedances shall be repaired and re-tested within 10 calendar days from the exceedance, and re-monitored in 10 days if there continues to be an exceedance. If the exceedance in these areas continues or recurs 45 days past the second monitoring event, Republic shall expand the wellfield. Daily logs describing the results of such monitoring and any repairs shall be provided to the SCAQMD, SCL-LEA, and Public Works within 15 days after each reporting month.

2. Should surface emissions discussed in the preceding paragraph continue to be released in quantities above the SCAQMD standards, any of the following additional measures may be required:
  - a. Installation of additional vertical gas extraction wells and/or horizontal collectors;
  - b. Application of a thicker soil cover upon the intermediate cover areas or utilization of low hydraulic conductivity material such as clay;
  - c. Use of an alternative material on top of the intermediate soil cover to control surface emissions.
  - d. Installation of pumps at additional wells to further enhance the effectiveness of the GCCS.
3. Republic shall submit plans showing slope angles that do not exceed a ratio of 3:1 on daily and intermediate slopes for future cell design, sequencing, and fill operations, to allow for better compaction of the daily and intermediate soil cover. Slopes that are inactive for less than 30 days may exceed the 3:1 ratio, but may not exceed a slope ratio of 2:1. The plans shall be submitted to Public Works and SCL-LEA, at least 90 calendar days prior to any new cell construction.

#### C. Odiferous Loads Management

Republic shall continue to implement the Odorous Load Management Program of the June 15, 2012, Final Odor Plan of Action that was submitted to Public Works on December 3, 2014, for compliance with Condition Nos. 9 and 10 of the October 22, 2014, letter.

#### D. Monthly Activity Reporting

Republic shall continue to submit the monthly activity report as described in Condition No. 11 of the October 22, 2014, letter to Public Works and the SCL-LEA, similar to what has been previously submitted to Public Works.



#### E. Submittal Requirements

All reports, plans, drawings, and other requested information required in this letter are considered engineering documents, and must be prepared, signed, and stamped by a California State licensed engineer with experience in landfill gas collection, design, and management.

#### **Measure to Ensure Odor Nuisance Abatement**

Public Works' review shows that Republic has been improving its landfill gas management and collection infrastructure since 2012, and is undertaking measures to ensure that its gas collection system is adequate at all times to manage gases being generated at the landfill. However, there remains an ongoing odor nuisance that impacts the community. Republic must take greater and immediate measures to mitigate current odor nuisance and complaints generated by the Landfill. Therefore, within 30 calendar days of this letter, Republic shall submit to Public Works, SCAQMD, and SCL-LEA detailed interim milestones which demonstrate that Republic is moving towards compliance and reducing the odor to below nuisance levels.

After 1-year from the date of this letter, Public Works, in concert with SCAQMD and SCL-LEA, will evaluate Republic's success in meeting the objective of the agreed-upon measures set forth in this letter and determine if the odors have been reduced to below nuisance levels. If the odor nuisance persists, then Public Works may impose additional restrictions and mitigation requirements pursuant to Condition No. 45.N of the Landfill's Conditional Use Permit No. 00-194-(5) and/or, working in concert with Department of Regional Planning, may procure the services of an independent engineering consultant, pursuant to Condition No. 72 of the Landfill's CUP, to assist Public Works with determining and evaluating the cause of the odor nuisance, and to make recommendations necessary for eliminating such nuisance.

#### **Penalty Provision**

Failure to implement any of the above corrective measures shall constitute a violation of the Conditional Use Permit No. 00-194-(5) and be subject to the penalty provision described in Condition No. 11 of the Conditional Use Permit No. 00-194-(5).

Mr. Rob Sherman  
March 30, 2016  
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If you have any questions, please contact Mr. Martin Aiyetiwa at (626) 458-3553, Monday through Thursday, 7 a.m. to 5:30 p.m.

Very truly yours,

GAIL FARBER  
Director of Public Works



MARTIN AIYETIWA  
Senior Civil Engineer  
Environmental Programs Division

KM:jl

P:\Sec\Sunshine Canyon Technical Review Findings of 1-21-16 Submittal DL-JW (clean).doc

cc: South Coast Air Quality Management District (Mohsen Nazemi, Cher Snyder, Amir Dejbakhsh)  
Sunshine Canyon Landfill Local Enforcement Agency (Gerry Villalobos, David Thompson)  
Department of Regional Planning (Jon Sanabria, Maria Masis, Susana Franco-Rogan, Tim Stapleton,)  
Department of Public Health (Angelo Bellomo, Jacqueline Taylor, Maurice Pantoja, Gerry Villalobos)  
City of Los Angeles Department of City Planning (Lisa Webber, Nicholas Hendricks, Ly Lam)  
Sunshine Canyon Landfill Technical Advisory Committee (Lisa Webber, Jon Sanabria)  
Sunshine Canyon Landfill Community Advisory Committee (Wayde Hunter, Gale Gunderson, Joe Vitti)  
Members of the Los Angeles County Solid Waste Management Committee/Integrated Waste Management Task Force



GAIL FARBER, Director

# COUNTY OF LOS ANGELES

## DEPARTMENT OF PUBLIC WORKS

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IN REPLY PLEASE

REFER TO FILE: **EP-5**

July 14, 2016

Mr. Rob Sherman, General Manager  
Sunshine Canyon Landfill  
Republic Services, Inc.  
14747 San Fernando Road  
Sylmar, CA 91342-1021

**SUNSHINE CANYON CITY/COUNTY LANDFILL  
CONDITIONAL USE PERMIT NO. 00-194-(5)  
REPUBLIC SERVICES' RESPONSE TO PUBLIC WORKS' LETTER  
OF MARCH 30, 2016, REGARDING ODOR MITIGATION MEASURES**

Dear Mr. Sherman:

We have reviewed your April 27, 2016, and May 12, 2016, submittals in response to Public Works' letter of March 30, 2016, regarding odor mitigation measures at the Sunshine Canyon Landfill. Public Works' letter of March 30, 2016, required Republic to provide (1) detailed interim milestones, which demonstrate that Republic is moving towards compliance and reducing the odor to below nuisance levels; and (2) certain information and reports specifically requested in the letter to demonstrate the ability of its gas collection and control systems to effectively manage and control landfill gases generated by the Landfill.

Although your April 27, 2016, letter contained a section entitled "interim milestones" listing various measures that Republic is undertaking or will undertake, these measures are routine maintenance activities and did not identify additional and specific measures designed to reduce or eliminate the odor nuisance being experienced by the community. Therefore, the Interim Milestone did not provide information sufficient to enable us to determine that Republic is making progress toward achieving the objective of reducing the odor to below nuisance level by March 2017. As such, we request that you provide a revised milestone report with specific new measures Republic will take to immediately begin to make progress towards achieving the stated objective in

Mr. Rob Sherman  
July 14, 2016  
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accordance with the March 30, 2016, letter including specific details of the proposed new measures, including plans, reports, and drawings.

We have also attached a table setting forth deficiencies in Republic's responses to specific requests for information and reporting set forth in the March 30, 2016, letter. Therefore, we are asking Republic to provide the outstanding reports and information set forth in the attached table.

Republic is required to provide the revised milestones and outstanding reports and information within 30 days from the date of this letter, but no later than August 11, 2016.

Failure to provide adequate responses to Public Works' March 30, 2016, requirements shall constitute a violation of the Conditional Use Permit No. 00-194-(5) and be subject to the penalty provision described in Condition No. 11 of the Conditional Use Permit No. 00-194-(5).

If you have any questions, please contact Martin Aiyetiwa at (626) 458-3553, Monday through Thursday, 7 a.m. to 5:30 p.m.

Very truly yours,

GAIL FARBER  
Director of Public Works

A handwritten signature in black ink, appearing to read 'M. Aiyetiwa', is written over the printed name of Martin Aiyetiwa.

MARTIN AIYETIWA  
Senior Civil Engineer  
Environmental Programs Division

KM:jl  
P:\Sec\Comments on Republic's Response to PW 03-30-16 letter (clean).doc

Enc.

Mr. Rob Sherman  
July 14, 2016  
Page 3

cc: South Coast Air Quality Management District (Mohsen Nazemi, Cher Snyder,  
Amir Dejbakhsh)  
Sunshine Canyon Landfill Local Enforcement Agency (Gerry Villalobos,  
David Thompson)  
Department of Regional Planning (Jon Sanabria, Maria Masis,  
Susana Franco-Rogan, Tim Stapleton)  
Department of Public Health (Angelo Bellomo, Jacqueline Taylor,  
Maurice Pantoja, Gerry Villalobos)  
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Nicholas Hendricks, Ly Lam)  
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Sunshine Canyon Landfill Community Advisory Committee (Wayde Hunter,  
Gale Gunderson, Joe Vitti)  
Members of the Los Angeles County Solid Waste Management  
Committee/Integrated Waste Management Task Force

Summary of Responses to Odor Mitigation Requirements

[Mitigation Requirements from 03/30/2016 Letter](#)

		Description of requirements	Republic Services' Response	Public Works' Response
Measures to Ensure Adequate Landfill Gas Management and Collection System <sup>1</sup>	A1	Republic shall prepare a 5-year master plan for the continued development and maintenance of the gas collection and control system (GCCS) at the Sunshine Canyon Landfill that includes, but is not limited to the following: a. Index map(s) where each yearly phase is set to take place at the Landfill. b. Fill operations or phasing plans (including excavation plans) that clearly delineate the phase for each planning year and are consistent with Fill Sequencing Plans to be reviewed and approved by Public Works. i. These plans must be provided in 3 feet by 2 feet printed copies and their equivalent electronic copies (Portable Document Format). ii. Plans must clearly define the boundaries of each phase. iii. The elevation heights as well as slopes of each phase must also be labeled legibly. iv. All legends must be identified in a "Legends" section for each plan. c. Proposed locations of the vertical gas extraction wells over the existing vertical gas extraction wells for each planning year showing the radius of influence of each well. d. Analysis and justification demonstrating the adequacy of the proposed and existing GCCS to effectively manage the amount of landfill gas being generated for each planning year.	This Master Plan includes the information listed in items a-d in the March 30th letter. Please note that in reference to Item A.1.b, a revised Fill Sequencing Plan was previously submitted to DPW in March 2016. Also included in this section is a summary table showing the landfill gas generated from January 2010 to March 2016 demonstrating the site's control systems are sufficient to control the landfill gas volume generated at the site and the estimated collection efficiency.	<b>A.1.a</b> The May 12th submittal did not provide an index map(s) that shows the location of proposed fill areas for each planning year. The index map(s) must be provided and clearly show the property boundary of the Landfill as well as the proposed boundary fill areas. This will allow us to locate where the Working Face is set to take place and the proposed well installations for each planning year. <b>A.1.b</b> The fill operations or phasing plans as required by Item A.1.b of the March 30, 2016, letter is different and separate from Republic's March 31, 2016, submittal of the proposed revised Fill Sequencing Plans for the Sunshine Canyon Landfill. <ul style="list-style-type: none"><li>Fill operations or phasing plans as required by Item A.1.b needs to clearly delineate the fill operations and liner phase (or excavation) plans for each planning year.</li><li>For each of these plans, an outline of the liner phase limit where fill operations for each planning year is set to take place need to be shown. Additionally, the liner phase limit(s) must be consistent with the proposed revised Fill Sequencing Plans submitted to Public Works on March 31, 2016.</li><li>In addition to the elevation heights, the slopes of each phase must also be labeled legibly.</li></ul> <b>A.1.c</b> For Sheet Nos. 3 to 7 of the "Plans for the Master Plan Update," the radius of influence must be drawn for each proposed and existing active wells located within the approximate boundary of fill area(s). This should be done for each planning year. This will allow us to visually determine whether there is enough GCCS coverage to handle the anticipated landfill gas that will be generated within the fill area over a period of time. <b>A.1.d</b> Based on your Landfill Gas Generation Summary Table, it appears that, collectively, the average "Estimated Collection Efficiency" has decreased from August 2012 to March 2016. Please provide your analysis and justification demonstrating the adequacy of the proposed and existing GCCS to effectively manage the amount of landfill gas despite the decrease in collection efficiency. Additionally, please explain the following: <ul style="list-style-type: none"><li>How does the "Total Normalized LFG Collection Rate" in the "Landfill Gas Generation Summary Table" differ from the "Landfill Gas Capture Rate" in the "Sunshine Canyon Gas Generation and Flare Capacity" table in the Attachment 10 of your January 21, 2016, submittal.</li><li>What does "normalize" mean and how is the "Total LFG flow" normalized to 50% methane? Why 50%?</li><li>Is it safe to assume that the landfill gas that are neither flared nor converted into renewable energy via the gas-to-energy facility are released into the atmosphere through surface cracks or GCCS leaks?</li></ul> Republic must provide the above information no later than August 11, 2016.
	A2	Republic shall submit a 5-year master plan (as described in Item No. 1) to Public Works by May 1 of each year for review and approval. This plan must be revised every year so that a new year is added to keep this as a 5-year plan.	See response above.	<b>A.2</b> The 5-Year GCCS Master Plan was submitted for 2017-2021 planning years. In order for Public Works to compare the 2016 As-built plan to be submitted on May 1, 2017, Republic needs to propose a plan starting with the planning year 2016. Republic's response is insufficient and did not fully address Public Works' requirements. Republic must provide this information no later than August 11, 2016.
	A3	By May 1 of each year, Republic shall submit As-Built plans to Public Works with copies to South Coast Air Quality Management District (SCAQMD) and Sunshine Canyon Landfill-Local Enforcement Agency (SCL-LEA) reflecting all GCCS installations and enhancements done within the prior calendar year. For any change in facilities between the submitted as-built plans and the facilities proposed in the prior year's approved 5 -year master plan, Republic shall provide a description of the operational or maintenance need that required the modification to the plan.	Please note that the GCCS components listed below are incorporated into the overall master GCCS site plan: <ul style="list-style-type: none"><li>Construction Report for the installation of 29 vertical gas collection wells, April through May 2015;</li><li>Construction Report for the installation of 18 vertical gas collection wells, September through October 2015;</li></ul>	<b>A.3</b> No comment on the 2015 As-built plans submittal. However, we are unable to ascertain the value of providing these plans since the goal is to evaluate additional measures or actions Republic will be taking to reduce the odor to below nuisance level.
	A4	At a minimum, annually by May 1 of each year, Republic shall calculate the in-place density of fill material taking into account the soil and other approved alternative cover material and calculate the radius of influence as well as spacing for vertical gas extraction wells and horizontal gas collectors based on that density. Areas with different site characteristics may require separate calculations of in-place densities. These calculations shall demonstrate the effectiveness of the collection system and shall be submitted to Public Works for approval with copies to SCAQMD and SCL-LEA by May 1 of each year. In the event the annual aerial flyover is delayed due to weather conditions, Republic will notify Public Works so a revised acceptable due date can be established for that year. a. Provide maps delineating the different areas that were analyzed for each planning year. b. Provide an explanation of the differences in the radius of influence calculated for the different areas analyzed for each planning year, including the effects of soil and other types of cover used in such areas.	A copy of the memo previously submitted to DPW is included providing information on the calculation of the radius of influence for site gas wells. Also included in this section is the radius of influence map.	<b>A.4.a</b> Provide a map that shows the extent of where Areas 1, 2 and 3 are located. <b>A.4.b</b> According to your calculations, the radius of influence (ROI) for any vertical gas extraction well design would be very similar from one another regardless of where it will be installed. However, the ROI map provided with this submittal shows that ROIs are different for each individual well. <ul style="list-style-type: none"><li>Provide a table showing the ROIs and all parameters used in calculating the ROIs for each well illustrated in the ROI map.</li><li>Provide an explanation for any differences or similarities in the ROIs calculated for Areas 1, 2 and 3.</li><li>The drawing should not be a conceptual drawing; rather, it should be a drawing that reflects as-built condition at the site. For each well, identify if the ROI is effective or needs adjustment in its extraction and capture rates. If any well needs adjustment, indicate the reason for such need.</li></ul> Republic's response is insufficient and did not fully address Public Works' requirements. Republic must provide these information no later than August 11, 2016.

Note: 1.) Republic's responses to measures A1 through A8 were based off of a letter submitted by Republic to Public Works on May 12, 2016.

Summary of Responses to Odor Mitigation Requirements

[Mitigation Requirements from 03/30/2016 Letter](#)

		Description of Requirements	Republic Services' Response	Public Works' Response
Measures to Ensure Adequate Landfill Gas Management and Collection System	A5	Based on the radius of influence calculated in Item No. 4 above, Republic shall propose a schedule for installing the appropriate number of vertical gas extraction wells as well as horizontal gas collectors in previously completed areas that need enhancements and newly completed cells (cells that have reached final grade). By May 1 of each year, the proposed installation schedule for the next planning year shall be submitted to Public Works for approval with copies to SCAQMD and SCL-LEA. In addition, Republic shall consider in its schedule all required permitting timeframes as required by SCAQMD and other regulatory agencies for the installation of its GCCS.	A schedule providing GCCS activities completed in 2016 and those proposed for the remainder of the year is provided. A schedule for 2017 GCCS activities will be submitted by November 20, 2016 as required by DPVV's letter dated April 27, 2016	<b>A.5</b> Even if the schedule may not be available now, at a minimum, Republic shall identify those wells that must be installed in 2016. See further comments in A.2.
	A6	Republic shall recalculate the efficiency of the GCCS annually taking into account additional landfill gas that is generated due to increases in the total in-place disposal volume by May 1 of each year. By May 1, 2016, Republic shall describe the methodology used in calculating efficiency by comparing landfill gas generation versus collection rates to Public Works, SCAQMD, and SCL-LEA. Thereafter, by May 1 of each successive year, Republic shall submit annual gas generation rates and projections, and GCCS efficiency calculations to Public Works, SCAQMD, and SCL-LEA for review and comment. Gas collection and control system calculations shall also demonstrate the adequacy of landfill gas destruction and management capacity when both the Gas-to-Energy facility is operating and when it is not functioning due to various circumstances including maintenance or repairs. Moreover, these calculations shall also take into account the existing 9-inches of soil cover, or other approved ADC (if any), for current and future design of the GCCS.calculations to Public Works, SCAQMD, and SCL-LEA for review and comment.	The current Landfill Gas Modeling Projection Report dated March 24, 2016 is provided.	<b>A.6</b> No comment on the Landfill Gas Modeling Report. Please see comment on A.1.d regarding the Landfill Gas Generation Summary Table.  Republic's response is insufficient and did not fully address Public Works' requirements. Republic must provide these information no later than August 11, 2016.
	A7	By May 1 of each year, commencing 2016, provide a gas collection well evaluation and integrity report, including maintenance schedule, which demonstrates that each well (vertical and horizontal) is functioning effectively as designed. Any well identified as ineffective or inefficient or impacted for any reasons, shall be immediately (within 14 days of such identification) retrofitted and/or enhanced to ensure its maximum collection effectiveness and efficiency. In no event shall such ineffective and inefficient well remain impacted for more than 30 days without being decommissioned and/or replaced.	A summary report of the March 2016 wellfield monitoring is included in this section. We agree that Sunshine has and will continue to monitor and maintain the landfill gas wellfield in accordance with site permits and 40 CFR 60.755(a) of the NSPS. The Landfill's rigorous operations and maintenance program for the GCCS includes routine monitoring for various landfill gas parameters for both compliance reporting as well as identifying operations and maintenance improvements required for the GCCS to operate efficiently and effectively. Corrective actions are taken to remedy GCCS exceedances within 5 calendar days and the exceedance will be corrected within 15 days of the initial exceedance. If the exceedance is not corrected within 15 days, the GCCS will be expanded or an alternate remedy will be implemented within 120 days. This corresponds to the LADPW Item A.7 in which an "ineffective or inefficient or impacted for any reason" well is defined as a well with an exceedance as defined by South Coast Air Quality Management District (AQMD) regulations or federal EPA regulations.  However requiring that wells in exceedance have to be retrofitted within 14 days and/or decommissioned within 30 days is not practical or in line with current South Coast AQMD regulations or federal EPA regulations. Republic agrees that immediate actions should be taken to remedy situations associated with a well in exceedance. This is currently how the landfill is operated and will continue to do so. However the actions will be performed in accordance with the current AQMD and NSPS regulations in order to ensure that a logical approach is used to correct and improve wellfield performance. Therefore Republic would like to discuss the removal of the language requiring well decommissioning per Item A.7.	<b>A.7 •</b> Republic's issue with timing is already addressed in Public Works' Condition No. 8, which allows Republic to request for additional time necessary to decommission and/or replace all identified impacted wells at the site at the discretion of the Director of Public Works. • See additional Public Works' comments on A.4.  Republic's response is insufficient and did not fully address Public Works' requirements. Republic must provide these information no later than August 11, 2016.
	A8	The Director of Public Works may approve additional days to replace the wells if demonstrated by Republic that additional time is necessary to decommission and/or replace all identified impacted wells at the site.	No response from Republic was provided on A.8.	This requirement is provided to address Republic's concerns expressed in item A.7.



Summary of Responses to Odor Mitigation Requirements

[Mitigation Requirements from 03/30/2016 Letter](#)

		Description of requirements	Republic Services' Response	Public Works' Response
Surface Gas Emissions Monitoring	B1	Title 27, Section 20700 of the California Code of Regulations requires that compacted earthen material of at least 12-inches in thickness be placed on all surfaces of fill where no additional solid waste will be deposited within 180 days. Republic shall visually inspect all areas of the Landfill (except at the outlet of any gas control device), including intermediate cover areas, for any fissures, cracks, or settlement in order to prevent emissions of landfill gas through the intermediate cover surface. Such inspections shall include areas identified in SCAQMD's Rule 1150.1 reports where methane levels have measured greater than 500 parts per million (instantaneous method) at the surface at a frequency greater than once every quarter. Areas of exceedances shall be repaired and re-tested within 10 calendar days from the exceedance, and re-monitored in 10 days if there continues to be an exceedance. If the exceedance in these areas continues or recurs 45 days past the second monitoring event, Republic shall expand the wellfield. Daily logs describing the results of such monitoring and any repairs shall be provided to the SCAQMD, SCL-LEA, and Public Works within 15 days after each reporting month.	No response from Republic was provided on B.1.	Since Republic did not provide a response regarding item B.1, Republic must fully address this requirement no later than August 11, 2016. Also, Public Works is aware that Republic was instructed by the SCL-LEA to conduct an Intermediate Cover Enhancement (ICE) study to improve the performance of the intermediate cover at the Landfill. If Republic is proposing to implement an ICE study at the site, this study required an approval from Public Works prior to its implementation. Additionally, prior to Public Works' approval, Republic must solicit public input and comments from the neighboring communities and interest groups, and copies of the comments and response to comments shall be provided to Public Works for consideration in accordance with County Conditional Use Permit No. 00-194-(5), Condition No. 79.  Provide a report, including a site plan, that identifies all intermediate cover areas that needs to be repaired or enhance and may be subject to the proposed alternative intermediate cover program.
	B2	Should surface emissions discussed in the preceding paragraph continue to be released in quantities above the SCAQMD standards, any of the following additional measures may be required: a. Installation of additional vertical gas extraction wells and/or horizontal collectors; b. Application of a thicker soil cover upon the intermediate cover areas or utilization of low hydraulic conductivity material such as clay; c. Use of an alternative material on top of the intermediate soil cover to control surface emissions. d. Installation of pumps at additional wells to further enhance the effectiveness of the GCCS.	No response from Republic was provided on B.2.	See above comment on Item B.1.
	B3	Republic shall submit plans showing slope angles that do not exceed a ratio of 3:1 on daily and intermediate slopes for future cell design, sequencing, and fill operations, to allow for better compaction of the daily and intermediate soil cover. Slopes that are inactive for less than 30 days may exceed the 3:1 ratio, but may not exceed a slope ratio of 2:1. The plans shall be submitted to Public Works and SCL-LEA, at least 90 calendar days prior to any new cell construction.	No response from Republic was provided on B.3.	Republic must address this requirement no later than August 11, 2016.
Odiferous Loads Management	C	Republic shall continue to implement the Odorous Load Management Program of the June 15, 2012, Final Odor Plan of Action that was submitted to Public Works on December 3, 2014, for compliance with Condition Nos. 9 and 10 of the October 22, 2014, letter.	No response from Republic was provided on C.	Republic must address this requirement no later than August 11, 2016.
Monthly Activity Reporting	D	Republic shall continue to submit the monthly activity report as described in Condition No. 11 of the October 22, 2014, letter to Public Works and the SCL-LEA, similar to what has been previously submitted to Public Works.	No response from Republic was provided on D.	Republic must address this requirement no later than August 11, 2016.
Submittal Requirements	E	All reports, plans, drawings, and other requested information required in this letter are considered engineering documents, and must be prepared, signed, and stamped by a California State licensed engineer with experience in landfill gas collection, design, and management.	No response from Republic was provided on E.	Public Works' submittal requirements stand as described in Item E.



Summary of Responses to Odor Mitigation Requirements

[Mitigation Requirements from 03/30/2016 Letter](#)

	Description of requirements	Republic Services' Response	Public Works' Response
Measure to Ensure Odor Nuisance Abatement <sup>2</sup>	<p>Public Works' review shows that Republic has been improving its landfill gas management and collection infrastructure since 2012, and is undertaking measures to ensure that is gas collection system is adequate at all times to manage gases being generated at the landfill. However, there remains an ongoing odor nuisance that impacts the community. Republic must take greater and immediate measures to mitigate current odor nuisance and complaints generated by the Landfill. Therefore, within 30 calendar days of this letter, Republic shall submit to Public Works, SCAQMD, and SCL-LEA detailed interim milestones which demonstrate that Republic is moving towards compliance and reducing the odor to below nuisance levels.</p> <p>After 1-year from the date of this letter, Public Works, in concert with SCAQMD and SCL-LEA, will evaluate Republic's success in meeting the objective of the agreed-upon measures set forth in this letter and determine if the odors have been reduced to below nuisance levels. If the odor nuisance persists, then Public Works may impose additional restrictions and mitigation requirements pursuant to Condition No. 45.N of the Landfill's Conditional Use Permit No. 00-194-(5) and/or, working in concert with Department of Regional Planning, may procure the services of an independent engineering consultant, pursuant to Condition No. 72 of the Landfill's CUP, to assist Public Works with determining and evaluating the cause of the odor nuisance, and to make recommendations necessary for eliminating such nuisance.</p>	<p>Republic submitted a letter dated April 27, 2016 (see attached), in responding to Public Works' request that "within 30 calendar days of this letter, Republic shall submit to Public Works, SCAQMD, and SCL-LEA detailed interim milestones which demonstrate that Republic is moving compliance and reducing the odor to below nuisance levels".</p>	<p>Based on our review of the April 27, 2016, submittal, it was not clear how the proposed routine maintenances and yearly planned upgrades to the existing GCCS would enable Republic to reduce the odor to below nuisance levels or eliminate the odor nuisance by March 30, 2017. Republic should provide detailed quantifiable justification how each of these milestones would result in reduction of odors to below nuisance levels by March 30, 2017. Additionally, Republic should 1) elaborate on the differences between what is being proposed vs what was historically done that would contribute to the odor reduction objective, 2) If the proposed milestones are not different from the routine yearly upgrades and operational activities at the Landfill, how would repeating the same strategy be beneficial in reducing the odor to below nuisance level?</p> <p>Therefore, Republic must provide these information no later than August 11, 2016.</p>

Note: 2.) Republic's response to this measure was based on a letter submitted by Republic to Public Works on April 27, 2016.